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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,498	09/24/2003	Masato Yanagida	242549US2	2278
22850	7590	09/22/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.			TRAN, HOAN H	
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ALEXANDRIA, VA 22314			PAPER NUMBER	

2852

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/668,498	Applicant(s) YANAGIDA ET AL.	
	Examiner Hoan H. Tran	Art Unit 2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23-33, 35-38 and 40-42 is/are allowed.
- 6) ☒ Claim(s) 1, 3-6, 8-11, 13-22 and 43-46 is/are rejected.
- 7) ☒ Claim(s) 2, 7, 12, 34 and 39 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/03, 12/03, 1/05</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

1. New formal drawings in compliance with 37 CFR 1.121(d) are required in this application. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Objections

2. Claims 34, 39, 43 and 45 are objected to because of the following informalities:
- Claim 34, line 1, replace "35" with --33--.
 - Claim 39, line 2, replace "second" with --downstream--.
 - The metes and bounds of claims 43 and 45 cannot be readily ascertained because the transitional phrases such as "comprising", "consisting essentially of" and "consisting of" for defining the scope of the claims are missing. (See MPEP 2111.03)

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2852

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3, 6, 8, 11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kato et al. [6,128,462]

Kato et al. disclose an image forming apparatus [Fig. 5] comprising an exposing unit [3], a transfer unit [5], and a process cartridge [16] including a photosensitive drum [1], a charging unit [2], a developing unit [4] containing toner, and a cleaning unit [6] having a cleaning blade [6a] made of urethane elastomer for cleaning the surface of the photosensitive drum; wherein when a sine-wave vibration of 10 Hz is applied to the cleaning blade, a peak temperature of a loss tangent $\tan\delta$ may preferably be 0° C or higher [Col. 5, line 48 to Col. 6, line 31].

5. Claim 45 is rejected under 35 U.S.C. 102(e) as being anticipated by Takami et al. [6,600,887]

Takami et al. disclose a toner used for developing in electrophotography, said toner having a shape factor SF-1 in a range of 100 to 180 and a shape factor SF-2 in a range of 100 to 140 [Col. 3, lines 65-67].

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 4, 5, 9, 10, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. in view of Ri et al. [6,444,387]

Kato et al., as discussed above, disclose the claimed invention except for the static friction coefficient of the surface of the photosensitive drum is in a range of 0.1 to 0.4 and the photosensitive drum includes a surface layer that contains a fluorine-contained resin particle.

Ri et al. disclose a photosensitive member having static friction coefficient in a range of 0.1 to 0.3 [Col. 15, lines 16] and a surface layer that contains a fluorine-contained resin particle [Col. 3, lines 15-28].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the photosensitive drum disclosed by Kato et al. with a static friction coefficient in a range of 0.1 to 0.3 and a surface layer that contains a fluorine-contained resin particle as taught by Ri et al. for the purpose of decreasing the coefficient of friction of the surface layer and to improve the abrasion resistance of the photosensitive drum.

9. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. in view of Shigemori et al. [5,328,792]

Kato et al., as discussed above, disclose the claimed invention except for a ratio of the volume average particle size and a number average particle size of the toner D_v/D_n is in a range of 1.05 to 1.80.

Shigemori et al. disclose a toner used for developing in electrophotography, said toner having a ratio of the volume average particle size and a number average particle size of the toner D_v/D_n in a range of 1.00 to 1.40 [See Abstract].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the toner disclosed by Kato et al. having ratio of the volume average particle size and a number average particle size of the toner D_v/D_n in a range of 1.05 to 1.40 as taught by Shigemori et al. for the purpose of satisfy both image density and cleaning ability in an image forming process.

10. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. in view of Takami et al.

Kato et al., as discussed above, disclose the claimed invention except for the shape factor of the toner.

Takami et al. disclose a toner used for developing in electrophotography, said toner having a shape factor SF-1 in a range of 100 to 180 and a shape factor SF-2 in a range of 100 to 140 [Col. 3, lines 65-67].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the toner disclosed by Kato et al. having a shape factor SF-1 in a range of 100 to 180 and a shape factor SF-2 in a range of 100 to 140 as taught by Takami et al. for the purpose of obtaining images with good quality.

Art Unit: 2852

11. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. in view of Oishi et al. [6,187,489]

Kato et al., as discussed above, disclose the claimed invention except for a fluorine-contained resin is added externally as an additive to the toner.

Oishi et al. disclose a toner having fluorine-contained resin added externally as an additive to the toner [Claim 4].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the toner disclosed by Kato et al. having fluorine-contained resin added externally as an additive to the toner as taught by Oishi et al. for the purpose of improving transfer efficiency of the toner.

12. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. in view of Kojima et al. [6,558,862]

Kato et al., as discussed above, disclose the claimed invention except for lubricant applying unit.

Kojima et al. disclose an image forming apparatus comprising a lubricant applying unit [Col. 8, lines 62-65 and Col. 10, lines 16-37].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the image forming apparatus disclosed by Kato et al. with a lubricant applying unit as taught by Kojima et al. for the purpose of decreasing the friction coefficient of the surface of the photosensitive drum.

13. Claims 16, 17 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takami et al. in view of Yamashita et al. [6,787,280]

Art Unit: 2852

Takami et al., as discussed above, disclose the claimed invention except for the toner made by allowing a toner solution to undergo at least either of a cross linking reaction and an extension reaction in an aqueous medium.

Yamashita et al. disclose a toner made by allowing a toner solution to undergo at least either of a cross linking reaction and an extension reaction in an aqueous medium [Col. 4, lines 39-50].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the toner disclosed by Takami et al. made by allowing a toner solution to undergo at least either of a cross linking reaction and an extension reaction in an aqueous medium as taught by Yamashita et al. for the purpose of producing high quality image without a void while reducing consumption of toner.

Regarding claims 16 and 17, Yamashita et al. disclose a toner is made by Melt-Kneading-Pulverizing method [Col. 20, lines 23-67] and having a volume average particle size of 5 μm [Col. 19, lines 8-10].

14. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. in view of Godlove [5,239,350].

Kato et al., as discussed above, disclose the claimed invention except for the cleaning unit includes at least two cleaning blades.

Godlove discloses a cleaning unit includes at two cleaning blades [Col. 4 line 57 to Col. 5, line 26].

It would have been obvious to one of ordinary skill in the art at the time the invention

Art Unit: 2852

was made to provide the cleaning unit disclosed by Kato et al. with two cleaning blades as taught by Godlove for the purpose of effectively cleaning the residual toner on the surface of the photosensitive drum.

15. Claims 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al. in view of Shigemori et al.

Yamashita et al. disclose a toner is made by Melt-Kneading-Pulverizing method [Col. 20, lines 23-67] and having a volume average particle size of 5 μm [Col. 19, lines 8-10]; wherein said toner is made by allowing a toner solution to undergo at least either of a cross linking reaction and an extension reaction in an aqueous medium [Col. 4, lines 39-50]. However, Yamashita et al. does not disclose a ratio of the volume average particle size and a number average particle size of the toner D_v/D_n is in a range of 1.05 to 1.40.

Shigemori et al. disclose a toner used for developing in electrophotography, said toner having a ratio of the volume average particle size and a number average particle size of the toner D_v/D_n in a range of 1.00 to 1.40 [See Abstract].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the toner disclosed by Yamashita et al. having ratio of the volume average particle size and a number average particle size of the toner D_v/D_n in a range of 1.05 to 1.40 as taught by Shigemori et al. for the purpose of satisfy both image density and cleaning ability in an image forming process.

Art Unit: 2852

Allowable Subject Matter

16. Claims 2, 7 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. Claims 23-33, 35-38 and 40-42 are allowed.

18. Claims 34 and 39 would be allowable if rewritten to overcome the objection(s) set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoan H. Tran whose telephone number is (571) 272-2141. The examiner can normally be reached from 8:30 AM - 5:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Arthur Grimley can be reached at (571) 272-2136. The central office fax number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



HHT
September 16, 2005

**HOAN TRAN
PRIMARY EXAMINER**